UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/258,013	02/25/1999	ALOK KUMAR SRIVASTAVA	50277-236	3268

29989	7590	11/10/2003

HICKMAN PALERMO TRUONG & BECKER, LLP
1600 WILLOW STREET
SAN JOSE, CA 95125

EXAMINER
PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
2142	23

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/258,013		SRIVASTAVA ET AL.
	Examiner		Art Unit
	B. Prieto		2142

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/06/03 request for reconsideration* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-19 and 21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11-19 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). _22_ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

U.S. Patent and Trademark Office

PTOL-326 (Rev. 04-01)   Office Action Summary   Part of Paper No. 22

DETAILED ACTION

1.   This communication is in response to request for reconsideration filed 8/06/03, claims 1-9, 11-19 and 21 remain pending and are hereby set forth for examination.

2.   Applicant's request for reconsideration of the finality of the rejection of the last Office action filed 08/06/03 is persuasive and therefore, the finality of that action is withdrawn (see MPEP 706.07(d)).

Claim Rejections - 35 USC § 103

3.   Quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action may be found in previous office action.

4.   Claims 1-9, 11-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iba et. al. (Iba) U.S. Patent No. 5,835,766 in view of Kanai et. al. (Kanai) U.S. Patent No. 5,778,179

Regarding claim 1, Iba teaches features of the invention substantially as claimed, teaching a distributed transaction processing system/method, (abstract), including;

registering in a table (name service) data that identifies a plurality of participants (col 10/lines 38-57) that are participating in said distributed operation (col 8/lines 45-65, col 9/lines 15-39);

said distributed operation is a complete or indivisible transaction (unit of work) involving said plurality of participants (col 2/lines 34-43, executing processes, col 1/lines 51-58);

said name service registers information received from clients (col 7/lines 66-col 8/line 5);

said name services registers information received from client (col 4/lines 1-32, col 7/lines 66-col 8/line 5) and provides said information to clients (e.g. 17b) that require the information to retrieve said registered information (col 4/lines 23-62); however prior art does not teach wherein said name service provides said participant data to a node different than a node on which said service resides, that request said participant data;

Kanai teach a system/method related to distributed transaction processing (abstract, col 1/lines 10-15), including;

registering in a name service server data that identifies a plurality of participants of distributed transaction processing (col 12/lines 62-col 13/line 8, Fig. 26);

a client includes a node different than where the name service server resides and configured to request information registered at the name service server (col 9/lines 20-45);

It would have been obvious to one ordinary skilled in the art at the time the invention was made to include Kanai's teachings into Iba's system to enable a client node to request participating data residing on another node, wherein participant data includes information about participants in distributed transaction process, motivation would be to request participating data including processing to be executed in the other transaction identifiers processing nodes and the transaction identifiers of processing nodes currently participating in distributed processing transactions, as taught by Kanai.

Regarding claim 2, retrieve said participant data in response to said particular node performing deadlock detection (Iba: col 4/lines 12-32, col 7/lines 66-col 8/line 5).

Regarding claim 3, said distributed operation is a distributed transaction (abstract, col 7/lines 32-40); and registering in a name service participant data that identifies which database servers of a plurality of database servers are participating in said distributed transaction (Iba: col 7/lines 32-40, col 9/line 9-14, database: Kanai: col 1/lines 51-55).

Regarding claim 4, causing modifying to said participant data to identify a new participant in said distributed operation (Iba: col 9/lines 25-45).

Regarding claim 5, said distributed operation is a distributed database transaction being executed by a set of processes coordinated by a coordinator process (Iba: col 1/lines 20-24, 58-42, col 7/lines 32-45); said coordinator process causing a new process on a database server to participate in said distributed database transaction (Iba: col 8/lines 9/lines 40-45); and causing updates to said participant data in response to said new process participating in said distributed database transaction (Iba: col 9/lines 54-58, Kanai: database col 1/lines 51-56).

Regarding claim 6, comprises combined limitations discussed on claims 1-3 and 5, same rationale of rejection is applicable.

Regarding claim 7, this claim includes limitation address on claims 1-5, same rationale of rejection is applicable, further, assigning a transaction identifier to said distributed database transaction (Iba: col 9/lines 24-39, col 10/lines 52-56);

registering in said name service data that associates said participant data with said transaction identifier (Iba: col 9/lines 24-39); and

causing node to request from said name service (published) data associated with said transaction identifier (Kanai: col 9/lines 20-45).

Regarding claim 8, said name service receiving a request from a first process to supply said participant data, wherein said name service and said first process reside on said particular node (Kanai: col 9/lines 20-45).

Regarding claim 9, retrieving said participant data from one data structures residing on said particular node in response to receiving said request (Kanai: col 9/lines 20-45).

Regarding claims 11-19, these claim comprises the computer-readable medium carrying one or more sequences of instruction(s) for performing the method disclosed on claim 1, same rationale of rejection is applicable to the apparatus claim(s).

Regarding claim 21, registering for each participant in said plurality of participants, data that identifies said each participant in response to said each participant commencing participation in said distributed transaction (Iba: col 2/lines 1-12, col 5/lines 43-50).

5.   Claims 1 and 11 are also ejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Berg U.S. Patent No. 5,459,871 I view of Neches et. al. U.S. Patent No. 4,412,285.

Regarding claims 1 and 11, Van Den Berg teaches a system/method related to distributing transaction-processing (abstract) including;

registering in a storage medium ("name service") (col 1/lines 44-49) participant data that identifies a plurality of participants (col 5/lines 29-59) that are participating in a distributed transaction process (col 3/lines 3-12, col 2/lines 43-66);

said distributed transaction operation is a unit of a process (unit of work) involving said plurality of processors, i.e. participants (col 2/lines 51-66);

said name services registers information received from client including a node (col 2/lines 13-21, col 3/lines 40-53); however prior art does not teach wherein said name service provides said participant data to a node different than a node on which said service resides, that request said participant data;

Neches teaches a system/method related to distributed transaction processing (abstract), including configuring a causing a node to request status (participant) data (query status: col 13lines 59-63, col 14/lines 16-34 transaction identities, col 3/lines 41-54, query to other nodes: col 10/lines 50-61) including data that identifies a participant that is participating in a distributed transaction process (Figs. 10-11) data registered in the requested node (col 8/lines 54-57);

It would have been obvious to one ordinary skilled in the art at the time the invention was made to utilize the teachings of Neches to cause a not that requires information about participants in a distribution transaction operation to request participant data to a node different from the requesting node for stored information including the identity of processes participating in a distributed operation, motivation to enable a distributed update communication scheme wherein a client may ascertain the current status of processor performing task and analyze the retrieved data and ascertain when and how the resources have changed, where nodes can be interrogated with the a minimum of overhead.

Response to arguments

6.   Applicant argues (a) prior art does not teach claim limitation as recited, specifically, registering in a name service participant data identifies a plurality of participants that are participating in said distributed operation, because according to applicant the reference teaches identifying entities that can participate in a distributed operation, but does not disclose or suggest that participants involved in a task are tracked in any way, therefore does not teach the use of a name service to store participant data that identifies participants in a name service.

In response to argument a, (i) according to applicant disclosure discussed as background, "typically, nodes that are executing entities may be involved in a deadlock cooperate operation to generate the distributed wait-for-graph which identifies which nodes may be executing entities involved in a possible deadlock" (see page 2, lines 26-page 3, line 5); (ii) prior art teaches that deadlocks are detectable between a plurality of transactions (participant) accessing a plurality of files (resources), exclusive control is performed to occupy hardware resources when accessed enabling a deadlock detector to generate a wait-for relations as to the occupation of hardware resources and the plurality of transactions to be executed (Iba: col 2/lines 1-13), the exclusive control is executed while a certain transaction is executing processing with occupying a certain file, when another transaction accesses the file, this transaction which has accessed the file is not immediately made to access the file, and is made to wait to occupy the file (Iba: col 1/lines 42-58); Therefore prior art teaches registering in a storage

(name service) participant data identifies a plurality of participants that are participating in said distributed operation.

7.   Applicant argues (b) prior art does not teach or suggest in any way, claim limitation as recites, specifically, particularly a node requesting participant data from a name service, wherein the clients includes nodes different than a node on which the name service resides, because according to applicant the reference teaches that the wait-for graph and the local and global managers that access it are on the same node.

In response to argument (b), prior art teaches a node requesting data from a name service wherein the client node is different than the node on which the name service resides (Kanai: col 9/lines 20-45); Further teaching teaches a wait-for graph (name service), which stores wait-for relation between transactions and is used for detecting a deadlock, including an address of a node connected to a self node on a shared memory, each node corresponding to each transaction, and a transaction identifier of the self node (Iba: col 5/lines 43-50). Therefore the prior art of record teaches, wherein in a distributed system, particularly a node requesting participant data from a name service, wherein the clients includes nodes different than a node on which the name service reside.

8.   Applicant's arguments filed 2/19/03 have been fully considered but not rendered persuasive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (703) 305-0750. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, David Wiley can be reached on (703) 308-5221. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to the Central Fax Office:

(703) 872-9306, for Official communications and entry;

Or Telephone:

(703) 306-5631 for TC 2100 Customer Service Office.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington VA, Fourth Floor (Receptionist), further ensuring that a receipt is provided stamped "TC 2100".

B. Prieto
TC 2100
Patent Examiner
November 5, 2003